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# TOWN PLANNING AND CONSERVATION OF LIFE

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## THE COMMISSION OF CONSERVATION

The Commission of Conservation was created in 1909, by Act of Parliament, to promote the economic use of Canada's natural resources. Authentic information respecting the character and extent of such resources, and with reference to the problems associated with their efficient development and their conservation, is freely available on request to the Commission.

## MUNICIPAL DEVELOPMENT IN CANADA

**A**N annual sum of \$15 per capita may be regarded as a reasonable estimate of expenditure for municipal purposes in cities and towns in Canada. With an urban population of 4,000,000, this would give a total of \$60,000,000 per annum. The control of this expenditure rests directly with the municipalities, but primarily with the provincial governments who are responsible for the legislation under which municipal administration is carried on.

Notwithstanding this huge expenditure, and the large part of it which is involved in financing a wasteful system of land development, there is no general and continuous survey of municipal conditions made in each province. Information regarding municipal government and finance is not available in a form suitable for comparative study, which indicates that no province really maintains an adequate system of enquiry into municipal questions. It is difficult for one city to benefit from the successful work or the mistakes of other communities unless comparisons can be made on the basis of accurate data. Under present



conditions it is beyond the power of any central organisation to obtain information from the municipalities in sufficiently large volume and of sufficient accuracy to provide a national or provincial comparison of conditions in different municipalities.

During the past three years an effort has been made by the Town Planning Branch of the Commission of Conservation to collect information from the principal cities in the country. The result brought out some interesting revelations, but it did not give the details in a form in which they could be compared with any advantage. The information either had to be used exactly as received, in which case it would be confusing and misleading, or it had to be studied and sifted and the general results presented in an abbreviated form.

In regard to several matters, any attempt to analyze and give an accurate statement of comparative conditions had to be abandoned.

A questionnaire which was sent to the principal cities and towns was studied and dissected by Mr. C. G. Moon, A.M.E.I.C.\* It contained 34 main questions and about 150 sub-questions; 208 questionnaires were sent out, and 94, or 45.2 per cent, were answered.

From a study of the answers it is believed to be impracticable to gather certain kinds of information except by personal investigation.

#### LAND VALUES

An attempt was made to collect information from Canadian cities regarding the total value of land in the city, apart from improvements, in 1912 and 1915. The object of this question was to ascertain how land values had grown during the three years. The answers obtained from 94 cities were not comparative. Some cities gave the market values and the others the existing values, and in many cases the value of land and improvements was not separated. Nevertheless, the information collected was of interest and can be used as the basis for a more accurate statement to be prepared in the future.

Looking upon a city as a business undertaking, its values of raw or unimproved land should not grow more rapidly on the average than its population. Choice sites for business or residence will grow in value because of increased demand, but on the average the growth of value should not be greater than the growth of population and of expenditure on local improvements and public services. The cost of providing the public services, including education and means of transportation, grows with the city. As cities increase in size taxes increase both per capita and per dollar of assessed value to the point of offsetting any advantages which the land gains as a result of the growing population.

There should be a direct connection shown between the increase of population and the amounts expended on local improvements and between both of these things and the values of land. If the population grows more rapidly than the improvements it will mean as a rule that insanitary and other undesirable conditions are allowed to prevail. If the improvement values grow at a greater ratio than the population, unless to make up some past deficiency, it may mean wasteful expenditure and an excessive burden of taxation. Assessed values of land should increase in response to the combined effect of increased population and expenditure on improvements—rather than rise and fall with speculative value. To secure this result the only practical way is to base assessed values on the revenue producing values of property.

In many Canadian cities the land values have increased much more rapidly than population. From a study of the expenditure made in a number of cities between 1912 and 1915 it is clear that during that period

the land values increased to an extent out of all proportion to the expenditure on local improvements and public works. In one city the assessed land values increased in four years by \$47,088,000, whereas the total amount spent on local improvements and public works was less than \$12,000,000.

Some cities, like Regina and New Westminster, showed an almost exact correspondence between their increase in land values and their expenditures on improvements. The most prevalent condition in recent years appears to have been that the land values have grown from three to four times more rapidly than the expenditure justified. Of course, it has to be recognised that expenditures on local improvements may create a justifiable increase in land values to the extent of two or three times more than the actual cost of the improvements. On the whole, however, considering that improvements have usually to be constructed in advance of development, and sometimes without creating more than a small percentage of revenue from land actually in use, in the improved condition, a healthy position for a city is to have its assessed land values grow in proportion to its capital expenditure for improvements. Every city has an opportunity of judging whether it is assessing its land on an economic basis if it keeps the assessed values from increasing more rapidly than is justifiable by its increased population in the first place and by its expenditure on improvements in the second place.

A further check is to be found in the increase of capital invested in building.

Canada needs more population but has a surplus of land. Excessive land values may keep population away. Land speculation has caused land values to increase, in many cities, in greater ratio than population. In the six largest cities the increase of population between 1911 and 1915 was 26 per cent, whereas land values increased by 38 per cent. In the next group, having from 31,064 to 46,619 population, the increase of population was 32 per cent, while land values grew by 21 per cent—a more satisfactory condition. The worst condition was found in the small cities, having between 5,000 and 10,000 population, the increase of population in these cases being 17 per cent as against 60 per cent increase in land values.

#### MARKET VALUES PER FOOT FRONT

It was desired to learn the comparative values of land in the different cities and to ascertain whether there was any relation between this value and the number of the population. There is no reason to suppose that the information was not reasonably accurate. It showed that values for business purposes grew proportionately with the population. In a city of 20,000 inhabitants the value per foot frontage for retail sites would be approximately \$500, but in cities 10 times that size the values were 10 times as much, namely, about \$5,000. On the other hand, residential values doubled as between the smaller and the larger city, without any substantial reason. Wages are usually no higher in the larger cities, while costs of transit are greater. The higher taxes in the larger cities are inevitable and the increased residential values should not exceed the amount necessary to meet the difference in taxes and greater cost of local improvements.

One interesting fact is that in a small city suburban land is only one-fifth of the value within the city, whereas in the bigger city it amounts to one-half. Then, again, suburban land in the large city has the same value as central land in the small city.

Such interesting points as the following may be noted. Taking the

largest cities in the country, we find that the following are the proportions between residential values and the retail business values per foot front:—

|                         | Residential | Business |
|-------------------------|-------------|----------|
| Vancouver.....          | \$100       | \$2,500  |
| Winnipeg.....           | 50          | 5,000    |
| Toronto.....            | 150         | 7,500    |
| Montreal (average)..... | 300         | 4,000    |

These figures do not quite mean that residents in Winnipeg have so much advantage over the other cities in low prices, but that the tendency has been towards the building of individual homes with less concentrated development for residential purposes.

#### TAXATION

Information obtained regarding taxation revealed a great variety of methods. It was found that 10 cities levied taxes on land alone, 4 on improvements alone, 18 on the full value of land and improvements and 44 on part value of land and improvements. While the arrears of taxes in the western cities, that have levied taxes on land alone, are high in all cases, there are also one or two cities with heavy arrears which levy taxes on land and improvements.

A city that did not encourage land speculation, and that kept its expenditures on local improvements within proper limits, would not require to levy such high taxes that owners of property would be unable to pay them. Given an assessment based on the productive use of land, there is no reason why the equity in land should be destroyed and owners compelled to fall into arrears.

In a small town like Nanaimo, B. C., there appears to have been little speculation, for, although the city has single tax, the arrears are only \$4 per capita, which is a normal condition. Other cities that are normal are Ottawa and Halifax with \$3 per capita. St. John is in the best position of the larger cities, with \$1 per capita, and there is really no reason why every city should not be equally favourable. Montreal and Toronto, with \$8 and \$9, respectively, have excessive arrears, even more so than the western cities, when it is considered that both of these large eastern cities are old established and have more settled conditions. Toronto arrears of \$9 really represent a worse condition than the \$14 arrears in Vancouver, yet Vancouver has single tax and Toronto has not. Port Arthur, which taxes both land and improvements, has arrears of \$16 per capita, against Vancouver's \$14. In the cases of North Vancouver, with its \$23 arrears, and of Prince Rupert and Edmonton, where the arrears amount to about \$30 per capita, there must be reasons other than single tax to account for such a difference from other cities that have single tax. These reasons will be found in the indulgence in land speculation and in carrying out expensive local improvements in advance of what is needed and, in other words, in proceeding without a proper city plan.

It is precisely those cities which have suffered most from excessive subdivision and land speculation, whether they have single tax or not, that have the greatest arrears. An unfortunate feature is the steady growth of arrears, and of the futility of tax sales to solve the problem of providing revenues to the cities that have arrears.

#### SEWERS AND WATER SUPPLY

The information obtained from 94 cities showed a very advanced condition in regard to the percentage of buildings connected to sewers and provided with water supply. Progress in the last few years in

this respect has been enormous. As in regard to other matters, it is not, however, possible to obtain accurate information. In one of the largest cities in Canada there is no accurate map of the sewer system and no proper information to show what streets were served with sewers and watermains. Reliance has to be placed on the knowledge of old servants of the city as to the position of some of the underground services. That this can be said shows an almost unbelievable backwardness in applying the engineering sense and sound business principles to city development. The estimates given by cities have, therefore, to be in some cases mere guess work. These estimates show that the buildings in cities are connected to sewers in the following percentages:—

|                                         |                    |
|-----------------------------------------|--------------------|
| Large cities.....                       | 90 to 100 per cent |
| Cities of less than 100,000 people..... | 45 to 100 “        |
| Cities of 2,000 to 20,000 people.....   | 20 to 100 “        |

The figures giving the percentage of buildings connected with the water system are approximately the same.

In comparing the costs of sewer and water systems in 44 cities it was found that the per capita cost of the sewer systems averaged \$34.88 and the per capita cost of those actually using the sewers averaged \$41.57. In the case of water supply the per capita cost of the total population is given as an average of \$42.24 and the per capita cost of those using the water as \$47.09. The highest costs are shown in those cities with the smallest densities of population. It is not usually realised that one of the main causes of high taxation is the cost of extending public services to thinly populated districts.

In two cities, having in the neighbourhood of 50,000 people, the cost of the sewer systems per capita of those using the sewers is given as \$139.32 in the one case and \$37.14 in the other. The city with the smaller cost per capita has 11.6 persons per acre as against 1.9 in the other city. In the same two cities the cost of water supply is also much greater where the smaller density of population exists. In the city with 1.9 density the cost is \$79.96 per capita as against \$33.33 in the more thickly populated city. This is not an isolated example, and it is one of the main factors in connection with the financial difficulties of western cities that have allowed themselves to be spread too widely over the territory. This scattered development is the result of the speculative system of land subdivision, already referred to as the primary cause of arrears of taxes.

The cost of the sewer system in the smaller cities varies from \$1 to \$87 per capita. The figures, to be of value, would have to be accompanied by accurate data as to mileage of sewers, methods of sewage disposal and sanitary conditions. The water supply cost from \$12 per capita to as high as \$94 per capita. The information collected in respect of these matters is of special value in showing the necessity for proper investigation of comparative details of cost of sanitary works in different cities.

#### BUILDING INSPECTION

One of the most necessary things in Canadian cities is to have proper by-laws to control building construction. The by-laws for this purpose are inadequate without proper inspection by qualified men. Out of 94 cities it was found that 69 had building inspectors and 57 separate plumbing inspectors, while 25 cities, or 26 per cent of the total, reported not having inspectors.

### HEIGHT OF BUILDINGS

The height of buildings permitted is highest in the west. In the large cities in the west it is 145 feet, and in the small cities, 125 feet. The extraordinary thing is that in a city like Prince Albert, which depends for its prosperity on spreading itself evenly over the land, permits a height of 125 feet. In the eastern cities the average maximum height is 130 feet, with 56 feet in the smaller cities. The general opinion favours the basing of the maximum height on the width of the fronting street, a sound principle but one that is usually disregarded under the pressure of individuals.

### WIDTH AND CONSTRUCTION OF STREETS

The provincial laws in Canada generally require 66 feet as the width of streets. This is so in British Columbia, Alberta, Saskatchewan, Ontario and Quebec. In the Maritime Provinces it is not quite clear whether the law required 66 feet in New Brunswick, but apparently 50 feet is the statutory width required in Nova Scotia, and 40 feet in Prince Edward Island. Some cities have bylaws permitting a narrower width than that allowed under the provincial law, but these could not be enforced unless with the consent of the province.

There are great differences between cities in regard to the extent to which permanent pavements have been constructed. In some cities the need for permanent road surfaces is greater than in others because of the character of the soil. One city in Ontario has 25 miles of paved streets per 10,000 people, while another of the same size has four miles. Another has 96 miles of permanent sidewalks per 10,000 people while another has eight miles.

### FORMS OF GOVERNMENT

In 93 cities from which information was obtained 92 elected their mayor at large and one was appointed by the council. Out of 89 cities there were 21 in which salaries were paid and 68 in which there was no remuneration. In three cities there was commission government with managers and in 11 commissions without managers. The ward system prevailed in 40 cities, of which 6 had boards of control. In 34 cities aldermen were elected by the people at large.

### INDUSTRIAL DEVELOPMENT

Interesting information was collected with regard to the character and distribution of industries in cities. This will be the subject of a second article in the next issue of Town Planning and Conservation of Life.

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## CITY PLANNING COMMISSIONS IN THE UNITED STATES

The United States National Conference on City Planning has a record of 148 city planning commissions actually at work. The Conference has just published a pamphlet entitled "Municipal Accomplishment in City Planning and Published City Plan Reports in the United States."

## A CONTRAST IN CITY PLANNING

SHOWING THE ECONOMIC AND SOCIAL ADVANTAGES OF MODERN TOWN PLANNING

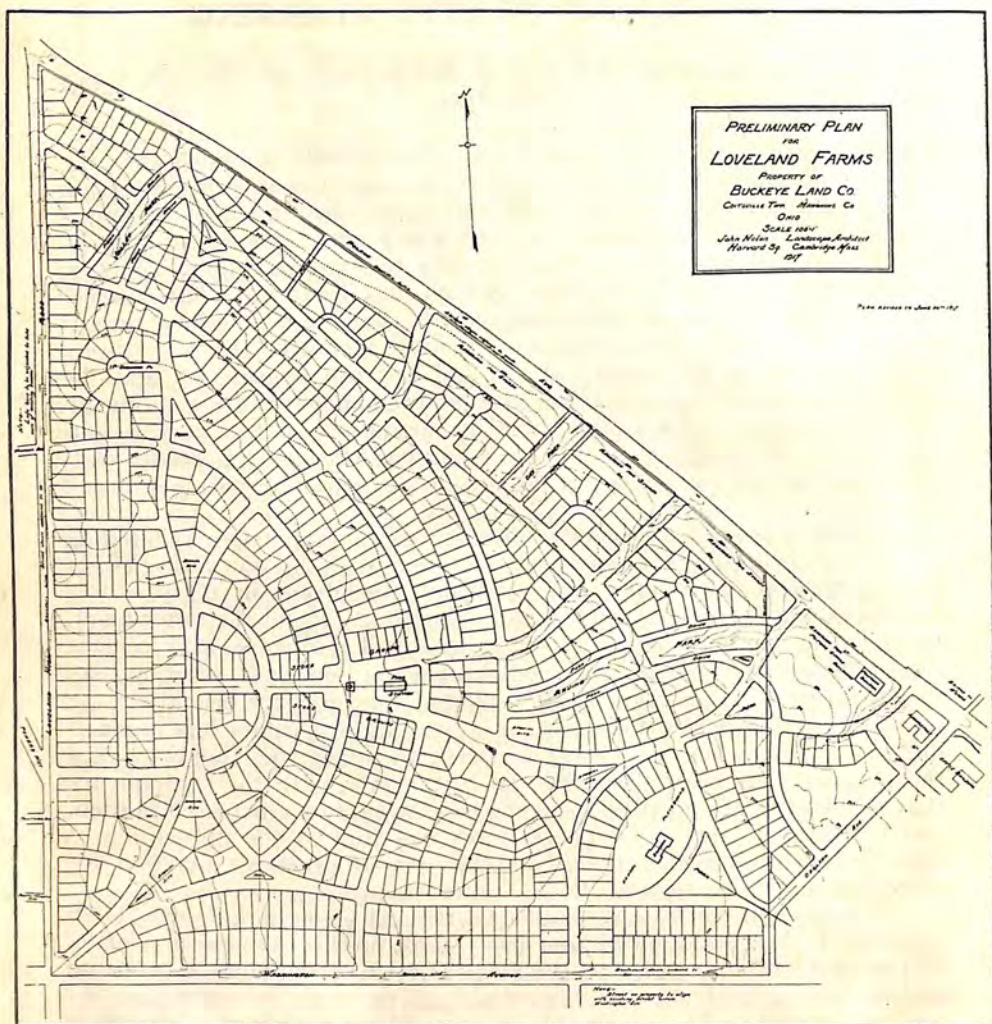
THE early settlers in Western Canada evidently intended that the evils of narrow, crooked streets and overcrowding of population to which many of them had been accustomed in the older countries, should not prevail in the new land which they had set out to develop. This seems to have been specially the case in mining districts, as mining towns like Lethbridge, Nelson and Ladysmith have exceptionally wide streets, so that very nearly half of the entire area is community-owned. Unfortunately, in most instances the topography of the ground or the nature of the soil was not considered, and the problem of street construction and maintenance resulting from ill-considered plans and excessive area of streets is to-day a very serious one, whilst the problem of over-crowding has been only partially met. The population is far too scattered in some sections and unduly crowded in others.

When a town has excessive street area in proportion to building area, several consequences may result. The most usual one is that street construction is temporary and makeshift, resulting in dirty, dusty roadways and dangerous ditches and sidewalks. If, on the other hand, the citizens are determined to have improved roadways with cement sidewalks, and surface or combined drainage, a burden of taxation may result out of all proportion to the value of the property benefited. In some cities this heavy taxation for street improvements has made it impossible for owners of vacant property to retain their holdings, and the property has been allowed to go to tax sale, with the consequence that the holders of improved property have to carry an increased burden, and educational and social programmes essential to the upbuilding of true citizenship have been crippled because of excessive taxation for what are generally termed "local improvements."

Excessive street area also adds to the cost of building land. If 20 per cent of the total area of land in a subdivision is devoted to streets, 25 per cent must be added to the original price of the land to make up for the loss of land not saleable. With 25 per cent in street area, 33 per cent must be added; with 33 per cent, 50 per cent has to be added; and with 40 per cent in street area 66 per cent. It is thus quite common to find subdivisions with very wide streets having very narrow frontage lots resulting in lateral overcrowding, which far outweighs any advantage that may result through the separation of buildings by the wide streets.

Another evil often results. To offset the high cost of land and street construction, the character of the building suffers, rooms being cramped or the sanitary essentials of a true home sacrificed. It is not uncommon in such cases to find that more has been spent on the land and its development than on the buildings which are placed on the land.

The modern city planner endeavours to avoid these errors. With entirely new development the problem is simpler, though even yet a serious handicap is often presented by legislation which prescribes a standard street width regardless of the use or function of the respective roads. But the city planner who has to face the problem of endeavouring to correct the errors of the past has a far harder task, and his difficulties are increased by the lack of education and want of understanding of the



problem by the average citizen, who still thinks that wide streets are the hall mark of proper city planning.

By the courtesy of Mr. John Nolen, Landscape Architect, of Cambridge, Mass., who is responsible for the design, and Messrs. Morris Knowles, Inc., Engineers, of Pittsburgh, Pa., who are in charge of the construction work, the writer is enabled to present a plan and particulars of a development planned for an industrial community near Youngstown, Ohio. In comparison with it a plan is presented of the city of Ladysmith, on Vancouver island, B.C., a mining community. Whilst they are alike in being industrial communities, they have also the same total area, and thus are directly comparable.

The Loveland Farm development at Youngstown is an effort of modern city planners to make a plan to fit the site, to design street widths suitable for the use and function of the street, to reserve natural beauty spots for park purposes, to centralise business in a suitable location, and, by enforcing building lines and building restrictions, to ensure that all buildings are properly placed on the land, so that every

property owner is assured of adequate light and air and a reasonable safeguard against the spread of fire.

The plan of Ladysmith, on the other hand, is the usual type of rectangular street development so common in the prairie sections of Western Canada, but in this case the defects of the plan are greatly intensified because it is superimposed upon a very hilly site. The axis would seem to have been determined by the railway right-of-way, which forms the northern boundary of the city, and it is interesting to note that had it followed the cardinal points of the compass, as is so usual, better street grades would have been secured.

Ladysmith (220 acres)—

|                    |             |                      |
|--------------------|-------------|----------------------|
| Building area..... | 114½ acres, | 52 per cent of total |
| Park area.....     | 6 “         | 2¾ “                 |
| Street area.....   | 99½ “       | 45¼ “                |

Youngstown (220 acres)—

|                    |            |                      |
|--------------------|------------|----------------------|
| Building area..... | 156 acres, | 71 per cent of total |
| Park area.....     | 11 “       | 5 “                  |
| Street area.....   | 53 “       | 24 “                 |

Commission of Conservation  
(Town Planning Branch)



The above statement shows the utilisation of the land in the respective areas, and it shows how great is the advantage of economy in street area of the Youngstown development, and also that more land is available for communal enjoyment.

The comparison is perhaps more striking if put in another way. Assuming that street costs are equally apportioned amongst lot owners in proportion to the area of the lot, and taking the standard lot of 800 square yards, as in Ladysmith, the lot owner in that city would be responsible for 693 square yards of street whilst the owner of a similar lot in Youngstown would be responsible for 271 square yards only.

At Youngstown, in addition to the saving of street area, by planning the streets to fit the site, economy in grading and in drainage and general construction is assured, whereas in Ladysmith, topography not having been considered, the street grades are excessive, running as high as 23 per cent, and street construction of all kinds is correspondingly expensive.

The difference in the two plans is also very strikingly shown in what are intended to be the business centres of the respective communities. In Youngstown the business square and the community centre are on a high level plateau, made accessible from all directions by streets of easy grade. In Ladysmith the so called "market square" is useless both as a business and recreational centre, the grade of the centre line on the short axis being 14 per cent, whilst the street that leads to it from the railway station has an average grade of 7 per cent. As an actual fact the square is not used for business and is never likely to be. A high school has been built in one corner, but the excessive grade prohibits the formation of a campus or playing field. It is not necessary to point out other defects in the plan, such as the rear of property facing the square on two sides, with frontage property on the other two, or the subdivision of the corner lots, which makes the most valuable corner inaccessible to the lane. The subdivision of large lots into small ones on the central street is of course a modification of the original plan, but is witness to the fact, already stated, that excessive street area tends to force the creation of narrow frontage lots. As there are no building-line restrictions the tendency throughout has been the usual one of building as close to the frontage line as possible, so that in spite of the wide streets the general effect is one of overcrowding.

Ladysmith was planned over a quarter of a century ago, and though the defects of the plan seem so obvious, similar plans are still being produced in British Columbia, which is without any effective town planning legislation.

Unfortunately, city planners in the boom days were inveigled into the production of many ambitious plans for civic centres, boulevard systems and parkways, without due regard to the general city plan, and the public still regard city planning as an artistic fad. Education is needed to show that true city planning is a scientific and economic study, absolutely essential to true industrial progress, economic welfare and human happiness.

The burden of municipal taxation cannot be reduced if the fundamental principles on which the city is planned are themselves economically unsound. No hotel or office building could be self sustaining, let alone revenue producing, if one-half of the floor area were devoted to passageways and lobbies. No manufacturer could successfully conduct a business if all his machinery were only working to half its capacity, with an empty floor or an empty room between each department. To secure economical municipal administration we must eliminate waste street area, save on street construction by a properly worked out plan

of street development, and also learn how to control building development, so that our public utilities, corresponding to the machinery of the manufacturer, are more efficiently utilized. The spacing of population must be more carefully studied, with the endeavour to avoid the overcrowding in the centre of our communities and the undue dispersion in the suburbs.

All over the country the cry of extravagant municipal expenditure is heard. Everywhere taxpayers are endeavouring to shift municipal burdens onto the administrators of Provincial or Dominion governments. only to find that if the load comes off one shoulder it goes onto the other. If more attention were paid to such causes of high taxation as the want of proper city planning, the avoidable waste by lack of control in the development of land, and in faulty building regulations leading to excessive fire losses and the lowering of the vitality of the people, we might then effect a gradual reduction in taxation, or, if that is not possible, at least secure greater value for the money that we spend.—  
*A. G. Dalzell.*

## WHY ZONING OF CITIES MAKES FOR ECONOMY

**I**N a paper by Mr. E. S. Rankin, Engineer-in-charge, Bureau of Sewers, Newark, N. J., read before the American Society for Municipal Improvements, some important consequences are noted as the penalties of the absence of zoning laws in cities. Zoning laws have for their object the classification of land in cities, as to use of area of lot occupied by, and as to the height of, buildings. A proper zoning law is part of a town-planning scheme. Zoning is now being carried out in scores of American cities, with the chief object of stabilizing real estate values. Mr. Rankin shows its effects in securing economy in municipal engineering.

Accepting the position that zoning, or the absence of zoning, does materially affect property values and public health, Mr. Rankin shows that in a city where a stringent zoning ordinance is in force the element of chance in the engineer's work is largely eliminated and decided economies are effected in the lay-out of streets, in pavement, sewers and water supply, because, with the assurance that a given section of the city will be occupied by certain classes of building, the engineer can much more intelligently design the public works necessary to serve properly that section.

Where there is no zoning law the following disadvantages arise:—

1. In the lay-out of streets for residences excessive widths have to be allowed, on the mere possibility that a transportation line will bring intense development.
2. The difficulty of making permanent allowance for parks and playgrounds under such uncertain conditions.
3. The difficulty of deciding on the kind of pavement that will be required, whether durability and strength for heavy traffic or smoothness and quiet, suitable for a residence district.
4. Difficulties in regard to sewer design, and the impossibility of judging whether communications should be laid to the curbs for regular lots or for apartment houses or manufacturing or what depths the sewers should be. In this important matter, it is pointed out, if the permissible height of buildings is known, and the maximum number of families allowed to the acre, then the necessary size of the sewer can be accurately determined.

"The necessary size of a sanitary sewer, omitting the factor of grade,

*Dist. in  
Sewerage.*

being governed entirely by the number of people served, can be determined very accurately if we know the permissible height of buildings and the proportion of buildings to lot area, and particularly when—as is the case with the Newark ordinance—the maximum number of families allowed per acre is specified.

“In estimating the required size for combined and storm sewers by the so-called national method, the uncertain but important factor of impervious area becomes a known quantity. As is well known, this factor may vary from 100 per cent for entirely built-up areas down to 30 per cent or even less in suburban districts.

“Without definite restrictions it is necessary to estimate the possible maximum length, depth and size for all parts of a city alike, but with a zoning ordinance in effect, each section can be treated separately and sewers built to properly sewer such section alone. Mr. W. W. Horner, in his report of the City Plan Commission of St. Louis for 1919, estimates that from 10 to 15 per cent of the cost of the St. Louis sewers could have been saved, had a definite plan for the development of the areas been adopted when the system was designed.

“With the exception of the factor of depth, similar remarks would apply to the water-distribution system.”

It would appear, Mr. Rankin concludes, that the municipal engineer should be one of the foremost advocates of the zoning of cities. But so should the city treasurer, who is interested in protecting the city finances, and the mayor and aldermen, who are anxious to save the taxpayers from costly waste. So also should the owners of property who indirectly pay large tribute to the waste and inefficiency due to letting cities grow up without plan or classification of use, density and height of buildings.

## BAD HOUSING CONDITIONS

### PRIVATE AND PUBLIC RESPONSIBILITY IN CANADA

THE bad conditions in a house, for which the occupant (owner or tenant) is primarily responsible, and which are difficult to regulate by by-law, are:—

1. Overcrowding of rooms
2. Lack of cleanliness
3. Want of proper maintenance of structure, drains, etc.

For the cure of the first and second of these evils we must depend largely on the education of the individual, but even here there is also public responsibility. Some inspection by the local authority should be undertaken to prevent injurious overcrowding or uncleanness. The local authority should also see that owners keep dwellings in tenable repair. But when we say, as most of us have at one time or other been tempted to say, that the housing question is a matter of reform of the individual and not one that can be dealt with by public regulation, we need to remind ourselves that, so far as this is true, it is mainly in the above three respects that it is so. In other more important respects bad housing is not the result of defects of persons but of municipal administration.

What, for instance, are the bad conditions in a house for which the municipality is responsible?

These have been shown in housing investigations made in Canadian cities to be:—

1. Excessive cost of site, as a result of unregulated speculation using up capital that should be put into the improvements.

2. Permitting buildings to be erected on damp sites, without being drained, and on land containing vegetable matter and garbage, without requiring concrete foundations.

3. Permitting dwellings to be erected and occupied without adequate air space within and surrounding them; of unsound and unsafe construction; and without adequate means of ventilation, proper drainage and sanitation, and a supply of pure water.

4. Permitting buildings to be converted into tenements or "rooming" houses without proper sanitary conveniences and safeguards from fire.

5. Permitting houses to be used for "rooming" or public lodging houses without registration and frequent inspection.

6. Permitting the continuance of such abominations as privies; failing to construct sewers and provide a water supply to all houses; failing to pave streets and to require the paving of yards round houses.

7. Failing to construct and maintain all drain connections between the dwellings and the lateral sewers, charging for the cost of same against the property instead of leaving such construction and maintenance to the owner.

8. Permitting houses to be erected without having plans and specifications first approved by the building inspector in accordance with proper building regulations.

It is in respect of these eight matters that the small dwellings in most Canadian cities are chiefly defective. They are all matters which the individual cannot control. The education of the owner or tenant cannot remove their powerlessness to deal with them as individuals. *In the face of this fact and of what we see around us in our cities it is evident that our housing problem is mainly one of municipal rather than of individual neglect.*

There are, of course, cases of overcrowding of rooms and lack of cleanliness, but not so numerous as we might expect having regard to the neglect of public authorities to give facilities for healthy and clean conditions.

Here are a few examples. In one district in an eastern Canadian city, which has been built up mainly since 1900, 319 houses were visited in 1915-16; 43 per cent of the residents were English-speaking Canadians, 34 French-speaking Canadians, and the remainder, 23, were of mixed nationalities. No instance of overcrowding was found, and no uncleanness was reported, but there were a number of dark rooms; some closets were partitioned off in corners of bedrooms; one hotel which had lost its license had one bath tub for six families; the cellars were generally damp; there was no playground and hardly any yards, so that all children had to play in the street.

Another district, built up since 1900, had 238 dwellings, which, were visited and studied in 1916. This is a foreign quarter, and there was some serious overcrowding. In a one-room shack there were a husband, wife, five children and a boarder. There was a cot for the boarder, but the family of seven slept in one bed. This instance of overcrowding is one of the kind that require to be specially dealt with by inspection and individual reform, but such are not numerous and occur only among certain immigrants who should be made to conform to better habits. But this one-room shack had no sanitary conveniences and the water tap was in the yard. The city was therefore an accessory in regard to the worst features of that dwelling. In many instances where sanitary conveniences existed they were in corners of bedrooms—in many cases where lodgers were kept. At the time of the investigation an adjoining piece of land was used as a dumping ground for garbage. It was impossible to open doors or windows facing the dump, which was a prolific place for breeding flies.

In another district, with a beautiful natural site, a study was made of 82 dwellings. What were the defects. Nearly all matters of public neglect. Only 9 per cent had bath tubs, and only 29 per cent sanitary conveniences in the dwellings. In two dwellings there was no water supply. Five families had to depend on a tap outside. Thirty-four had a tap but no sink. Most of the waste was disposed of on the streets and yards. There was one basement dwelling with two rooms. It had stone walls and wooden floors. The front room served as a kitchen, dining-room and living-room, and was lit by two tiny round windows under the verandah. The back room was the bedroom and had no window.

One building in a more central area of a city had been converted into an apartment house and there was only one bath and toilet for three families. In one wooden row that had no foundation the sanitary conveniences were installed by partitioning off the parts of bedrooms, with windows opening into the bedrooms. One wooden row, with sagging roof, was in bad repair, with broken plaster on walls and ceilings; there were no bath tubs, sanitary arrangements were defective and there was no foundation. Four houses were rented for \$12.00, and the owner refused to do repairs.

#### CONDITIONS IN SUBURBS

Some of the worst conditions are, however, just outside the boundaries of cities where there are no sewers and no water supply. One suburban area has 5,000 population—mostly built up during the last few years, and a great portion of it on land which should never have been permitted to be used for building. Lots were sold some years ago for from \$150 up, more than ten times the agricultural value of the land. The district is now one of wells and privies. Many families keep pigs, which help to contaminate the wells. A large portion of the area which was visited was a cedar swamp, where water lies to a depth of a foot or more in spring. The streets are unpaved, and are covered with rank grass and weeds in summer. Garbage is now being dumped on that site to raise it to building level.

The residents are poor and some of them ignorant; but they are generally clean. The failure is not with them. They are the victims of a system that is beyond their control; but not beyond the control of the public authorities, if the land development were planned in advance under town planning regulations.

#### SIMILAR BAD CONDITIONS IN WESTERN CITIES

The above refers to conditions in an eastern city. During May and June last a housing survey was made of portions of a western city by the Medical Officer of Health. In one district there were 416 dwellings occupied by 4,141 persons on an area of 81.9 acres. This represented an average density of about fifty persons to the acre. The building construction was fairly good. *There was no overcrowding of rooms*, but no fewer than 122 houses had been improperly occupied as tenements by from two to eight families, and in none of them had any attempt been made to fit them for tenements. Rooms too dark for occupation numbered 140; 78 had no windows opening to the external air; there were 54 basement dwellings; 347 families had 84 closets or 1 to 4.1 families, but in some cases 8 families used one convenience.

Other districts investigated brought out similar facts. As a rule, the individual family is living up to the standard permitted by the

conditions and environment, created by those who develop the land under municipal guidance. Generally speaking, where bad conditions prevail they are due to lack of proper by-laws, or lack of administration where proper by-laws exist. Provincial and local authorities may regard the evils of bad housing with equanimity, but they cannot truthfully put the responsibility for these conditions on the shoulders of individual citizens.

#### FIRE PREVENTION

The question of properly controlling the construction and surroundings of buildings for purposes of sanitation is linked up with the question of similar control for purposes of prevention of fire. What creates good sanitary conditions and air space simultaneously provides the means of reducing fire risks.

One difficulty in getting houses properly built or improved is the idea that the people cannot afford to make them sanitary and safe. They do not, however, save any money by living in these bad conditions. In the end they lose. In addition, the public are losing a great deal in providing extra fire protection, in hospitals, and in other means that have to be employed to remedy the disease of the slums.

The position in parts of our Canadian cities is deplorable, less from the point of view of what has already happened than from the point of view of what is certain to happen in the future as the result of present neglect. The absence of control over building construction, the erection of buildings on lanes and rear lots, the permission to erect frame tenements, the absence of sewers and water supply directly connected with all houses, and other defects can be gradually put right at comparatively little cost.

It is in proportion to our ability to remedy these things that public responsibility is to be measured. In old cities the clearance of slum areas costs millions without any return. In most Canadian cities the problem is one of town planning, of raising standards of housing construction, and of requiring owners of buildings and real estate to fulfil their obligations to keep their property in wholesome condition.

THOMAS ADAMS.

#### NEED OF TOPOGRAPHICAL MAPS IN CANADA

**B**OTH the United States and Canada suffer very considerably from the absence of accurate maps, prepared by a central department, on a uniform scale and system. As a result of this work being left to local and private initiative probably as much money is spent, without satisfactory results, as would be needed to procure adequate and accurate maps under a proper system of organization. Where a city does its own mapping it cannot obtain good results. There seems to be no practical way in which maps can be prepared by the municipalities if successful results are to be obtained. All the cities in Canada would find it greatly to their advantage to have such maps, but anything that is now done towards preparing them is done in a sporadic and piece-meal way and no city in the country has a good topographical map.

In the United States a few cities, like Baltimore and Cincinnati, have had such maps prepared by their own engineering staffs, but in the nature of things this must have been at enormously greater cost than would have been necessary if the work had been done by a central authority under a trained organization.

*✓ Topographical maps.*  
*✓ See also...*

In Britain the whole of the country is mapped under the Ordnance Survey Department, showing the details of all land in town and country in the same way as is shown on the accompanying map of Hereford. This plate is taken from the six-inch English map, but a larger and more accurate map is printed on a scale 25 inches to the mile. The development of the Ordnance Survey map of England has only been possible with a centralised staff. The work is of such a character that the same men have to apply themselves to it for a considerable period before they can obtain accurate and economical results.

The need for such a map is greater in Canada than in England, because of the new conditions and rapid developments within and surrounding the cities. Probably the chief difficulty in Canada would be due to the size of the area and the more scattered population. This might be regarded as making the comparison with England inappropriate, but it is not so, as the suggestion is that the mapping should only be done for populous areas which are comparable to England.

#### TYPICAL AREAS IN CANADA

For instance, the following are typical of the areas that urgently need topographical maps:—

- (1) Montreal island.
- (2) Toronto region, comprising the city and the surrounding towns and rural districts within 10 miles.
- (3) Niagara frontier region.
- (4) Windsor region, opposite Detroit, comprising seven urban and rural municipalities.

The above are some areas that provide the combination of town and country conditions obtaining in older countries like England, and it is for such districts that accurate topographical maps are most essential.

In connection with town planning, such maps are indispensable, but they are also needed for many other municipal purposes and for the use of citizens who own property. A large sum can be realized from the sale of such maps when they are available at reasonable cost for general use.

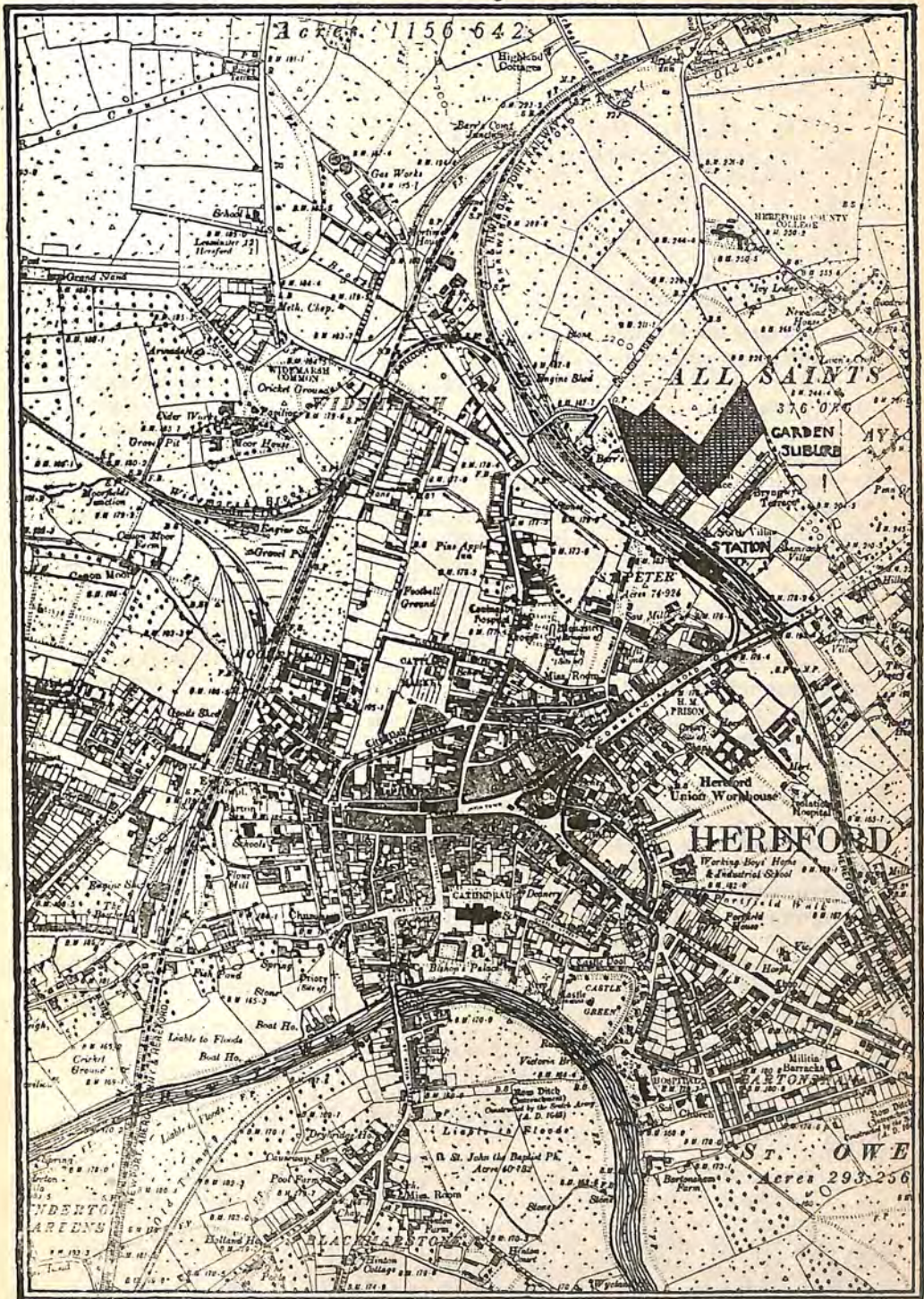
In cities like St. John and Ottawa thousands of dollars have been spent in getting surveys made for want of proper basic maps, and the final result is not satisfactory.

#### THE ORDNANCE SURVEY OF ENGLAND

England, which is the only country we can refer to as a guide because of its having had the experience in the preparation of such maps by the Ordnance Survey Department, does not find that the preparation of such maps carries with it any responsibility for doing anything other than preparing and publishing the maps. The British Government, as a national authority, conceive their duty to be to have an accurate map of the country, and they limit themselves to carrying out that duty. They do not even ask the cities to bear any portion of the cost. Prints of the maps are sold in book stores throughout the country, and before the war the price of each sheet was about 75 cents. A much larger price would be obtainable in Canada as the maps would have greater value.

#### SHOULD MAPPING BE DONE BY FEDERAL OR PROVINCIAL GOVERNMENTS?

It is unlikely that the waste of time and money that results from the absence of such maps throughout the country will be allowed to continue, and some effort is almost certain to be made in the near future



MAP OF THE CITY OF HEREFORD.

SHOWING THE INFLUENCE OF THE IRREGULAR DEVELOPMENT OF THE SURROUNDING RURAL DISTRICT ON THE METHOD OF GROWTH AND THE LINES OF COMMUNICATION OF THE CITY. THIS IRREGULAR DEVELOPMENT, BEING INFLUENCED TO A LARGE EXTENT BY TOPOGRAPHICAL CONSIDERATIONS, AFFORDS, IN MANY RESPECTS, A MORE RATIONAL BASIS FOR DEVELOPMENT THAN THE RECTANGULAR PLAN, WHICH IGNORES NATURAL CONDITIONS.

to get the Federal or Provincial Governments to prepare maps of the most populous areas. On the surface it appears more properly the duty of the Provincial Government, as it is the authority to deal with municipal affairs.

The mapping of these populous industrial regions, which comprise cities and the surrounding territory, is not, however, a municipal question. It is an advantage to get the city to co-operate and to bear part of the cost, but it is a national purpose that is to be served by getting the work done. A region like the Island of Montreal comprises both urban and rural municipalities, and its proper development is essential in the interests of Canada as a whole. The same is true in a special degree of the peninsula comprising the Vancouver region.

Because of the national importance of such areas, the Dominion Air Board is preparing to make aerial maps of a number of regions. The use of aerial maps will be very limited unless they are supplemented by a topographical map. If so supplemented we should have information regarding the developed parts of the country which would be of great assistance in connection with its future development, particularly in regard to the location of manufacturing industries.

There are certain agricultural areas, like Niagara peninsula, where similar mapping is also desirable. It would hardly be the duty of the Federal Government to do the mapping for cities alone or as a means of assisting cities. It has adequate reasons of its own, and purposes of a national character to achieve, to induce it to make maps of the most thickly populated parts of the country. By centralising the work in the Federal Government, instead of in the provinces, it will be possible to get a much higher standard of work and greater economy of administration. This is a class of work that cannot be over-centralised. It can be linked up with the surveying departments of the government and only take up the time that can be spared from other kinds of surveying work. A great deal of it can be done without extra cost because it would be part of the work that has to be done in any case.

It is not suggested, however, that although the work has a national purpose and value the cost should be entirely borne by the Federal Government. Some efforts should be made to get the Provincial Governments to contribute a share of the cost, and if the value of the work were made clear to them they would be unlikely to refuse. Where a city wishes to have a map it could be asked to contribute in services to the equivalent of three parts of the cost, leaving only one-quarter to be borne by the government.

If an opportunity can be obtained for the Federal Government to gradually build up a topographical map of the most settled parts of the country, under an arrangement by which the local municipalities contribute anything like 50 or 75 per cent of the cost, it would be greatly to the advantage of the country.

From a town planning point of view, that is from the point of view of getting land economically developed, such maps will be most valuable. For innumerable purposes connected with the building up of the industries of the country, the safety of property and the economical systems of drainage and highway development, these maps are essential and would be an excellent investment for the country.—*Thomas Adams.*

## HOUSING AS PUBLIC UTILITY

"The Philadelphia Chapter of the American Institute of Architects, a body to which no taint of radicalism has ever attached, has lately declared that houses for those who earn low wages can no longer be built anywhere in the world at a cost which will permit them to be either sold or rented without loss, and that it is unquestionably true that an industrial system, or even any particular industry, which fails to make possible adequate shelter, food, clothing and recreation for all of its operatives is unworthy to exist. The Chapter proposes that housing for those earning low wages or salaries be legalized as a public utility; that the manufacture of this class of homes as a profitable industry should cease in theory as it has already ceased in fact; and that the Government, national and local, should at once adopt measures making possible the supply of this prime necessity of life."—*Canadian Engineer*.

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Of the 325 British local authorities who are under compulsion to prepare adequate town planning schemes by 1927, 146 have signified their intention of taking immediate action. There is little doubt that during the next six years Great Britain will have a national town planning programme in operation that will profoundly affect the growth of towns and cities, and, by regulating the density of population, will make the further development of slum conditions impossible. "In town planning," says Professor Adshead, "lies the basis of all social reform."

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## HOUSING PROGRESS AT ST. LAMBERT, P.Q.

MR. E. Drinkwater, Engineer and Housing Director for St. Lambert, Quebec, reports that the local housing scheme, under the federal and provincial housing acts, is working satisfactorily, and that considerable progress is being made. He is of opinion that the \$200,000 allocated to the town will not be nearly sufficient to meet all the applications for the loans, and is convinced that his council could profitably use five times the amount granted.

The Order in Council for the loan was passed September 13, 1920, and a draft of the first contract—to a housing company—was approved by the Provincial Director of Housing on October 1. Building was commenced at once and a number of houses have been completed, with others in different stages of construction.

The dwellings are being erected under two principles. On the one hand a housing company is operating under the Quebec Act of 1914, "to assist in the construction of dwellings," and is receiving, under the federal grant, 85 per cent of the cost of houses with a maximum cost each of \$4,000 and \$4,500 in accordance with the federal act.

The contract with this company permits it to dispose of houses to purchasers who must be acceptable to the town council. The company is limited to a six per cent profit under the Act of 1914, and, before it can dispose of the houses, conditions of sale and price have to be approved by the town council and the Lieutenant-Governor in Council. The sum allocated to the company is \$100,000. Eight dwellings have been completed at the time of writing, both detached and pairs of cottages,

of six rooms with bathroom and full basement area and with exterior walls finished in stucco. With the remainder of the grant the municipality is lending money to individuals who own lots, and there is every prospect that the loan will soon be exhausted. Another company is prepared to take up an additional \$100,000 if the town can secure an increase of the grant. The entire amount of the loan will be expended on the dwellings, the municipal council providing for local improvements in the usual way.

Like most towns St. Lambert has many vacant building lots already supplied with local improvements and transportation facilities, and the local director is not at present advising town planning schemes until these vacant properties are built upon. He is of opinion that five times the amount of the grant available could be well spent in supplying the lot owners with the necessary capital for building operations and he is not aware of any obstacle to taking advantage of the loan. He is of opinion that if the town of St. Lambert received the larger amount a building scheme might be developed that would considerably reduce costs, since the small contractor is often unable to purchase material at the best market prices.

As the federal housing project has received some criticism in Quebec, it is interesting to hear that one local director of housing is convinced of its utility and practicability and is only hampered by the limitations of the amount of grant received.

## SANITARY ENGINEERS ON BOARDS OF HEALTH

**M**R. E. G. SHEIBLEY, Consulting Sanitary Engineer, Los Angeles, Calif., writing in the *American City*, suggests that more engineers should be engaged in public health work, as members of health boards and as commissioners of health. It is claimed that the sanitary engineer, because of his training and experience, is the logical executive for public health work. While the laws generally permit only practising physicians to hold the office of city or county health officer, in older countries it is the sanitary engineer who performs the executive duties. Generally, however, in all countries the sanitary engineer acts as deputy health officer, and as such may do the greater part of the actual work, but must be subordinate to the doctor of medicine who holds the office. Should not the sanitary engineer be placed in a position of equality with the medical officer and only highly qualified men selected for the duties.

Mr. Sheibley goes so far as to suggest the advisability of naming an engineer as health officer, with a doctor of medicine retained in the position of an assistant or consultant. This, however, is going too far in the other direction. In support of the suggestion Mr. Sheibley says:

"The duties of a health officer may be divided into three classes of work—medical, executive and administrative (business), and engineering. Perhaps ten per cent of the duties of a health officer require medical training, and of course no one would trust the judgment of any non-medical man in such problems as the diagnosis of disease and the prescription of treatment or medicine. As contrasted with this limited number of purely medical functions, probably fifty per cent of the health officer's duties demand an engineering knowledge and experience; while as a rule the general executive and administrative training of the engineer is superior to that of the practising physician in practically every instance.

"On every health board, state and city, the engineer and the doctor should have equal representation. The doctor of medicine is primarily interested in the cure of constitutional disease; the sanitary engineer is primarily interested in the removal of those environmental causes which are responsible for about one-half of the diseases of common occurrence. It is no reflection on the medical profession that only a few practising physicians know the relative advantages of an activated-sludge plant and an imhoff tank; while such questions, of concern to the community and its health officer, are part of the elementary knowledge of the sanitary engineer."

Whatever may be the view regarding this matter it is certainly important that more responsibility should be placed on the shoulders of the sanitary engineer and an improved status given to the profession. Plumbing, garbage and refuse disposal, water-supply, sewerage and sewage treatment are problems primarily in sanitary engineering, and require constructive engineering capacity to deal with them.

The encouragement of the sanitary engineer by enlarging his functions and putting him in direct charge of the correction of defective sanitation, is necessary to secure the improvement of sanitary conditions. He should be the official responsible for a great deal of the preventive work that is needed so as to overcome the growth of evils that are so difficult and costly to remedy. Most of the defects in housing in Canada are due to neglect of control of sanitation. Sanitary inspectors are too often chosen without regard to their fitness as engineers. If we are to have a better trained profession in sanitary engineering we must give more scope for the men who enter it and the higher standards of pay and responsibility that will attract skilled men. This is no reflection on the important part played by the medical profession in municipal work but a suggestion that their work should be supplemented by engineers having a special training and knowledge in sanitary work. Certainly the present system of control of sanitation is not satisfactory, and the time is opportune for considering whether greater responsibilities and improved status should be given to engineers on provincial and local boards of health.—THOMAS ADAMS.

## CANADA'S FRONTIER WORKERS

**M**OST Canadians delight in quoting statistics as to the rich resources of the Dominion in farm and forest, fishery and mine, but this boasting self-complacency disappears before a thoughtful study of the practical problems of converting these national assets into actual wealth. This task is now an urgent necessity owing to the pressure of public indebtedness consequent upon the war. It will require the careful direction by experienced far-sighted men of a generous investment of labour and capital in order that the best results may be attained.

Who are the workers who hew our forests, build our railroads and work our mines, extending the bounds of our community life, and by their productive labour increase our public revenue? In all there are about 250,000 men living in camp bunk houses doing this work. Because native Canadians are none too numerous for the usual industries, much of this pioneer work has been done by immigrants. Some of these immigrants have been of British or American birth, and because they knew our language and were accustomed to British ideals of society and government their entrance into our country made no new social problem.

Of the non-English-speaking immigrants, the Scandinavians have been among the most numerous, if under this general name we include

40,000 Swedes, 25,000 Norwegians, 7,000 Danes and 5,000 Icelanders who have come to Canada in the last twenty years. These are literate peoples and compare well in this respect with the native-born Canadians among whom they work. They come from out-of-door occupations and are experts in the heavy work of mines and camps.

Another northern country that has sent forth many of its sons to Canada is Finland. Escaping from the iron hand of Russia, they are inclined to express their love of independence by an extreme socialism which tends to develop into bitter hostility to all existing institutions, political and religious. This radicalism may disappear under the influence of closer contact with native Canadians, when the barrier of language is broken down.

Of 17,000 Italians who came to Canada in 1913, more than 13,000 were unskilled labourers. Professor Smith of Toronto University says in *A Study in Canadian Immigration*:

"With remarkable endurance and no little skill, the Italians have done much of the pioneer work of the western world. The inability to speak English has compelled them to keep together in gangs, where they can be directed by an Italian foreman. The same lack of knowledge of English forces them in cities to establish colonies of their own people, with the retention of the language, customs and traditions of Italy. This manifestly retards the Canadianization of the family."

Space does not permit us to consider the other nationalities who have contributed their quota of labour in developing our national resources. Divers are the languages and customs of these men who are finding their first employment here in our frontier lumber, mining and railroad construction camps. The first step towards imbuing these new Canadians with our national ideals is to teach them our common language. This is no small task in the case of an adult workman, often illiterate in his own country, but it is most important that at the time of his first contact with our industrial civilization he should receive wholesome views on economic and social questions, in order to be able to stand against the perverted teaching of agitators.

The only organised effort to do this important work is the Frontier College. During the twenty years of its existence 600 university men have engaged in this work of transforming the foreigner into a Canadian citizen, working with their hands at the labourer's task during the day while acting as teachers during the evenings, on rainy days and holidays. This unique educational experiment, so effectively carried on by methods and text-books specially adapted to this peculiar task, has its headquarters at 67 Yonge St., Toronto, but its class-rooms are in tents, box-cars or shacks at 100 different places in the backwoods of all the provinces. The instructor has men of all nationalities in his classes, and finds them for the most part eager to learn, as he aims to help them to develop into the kind of sane industrious workmen Canada, as a young country, so urgently needs.—ETHEL D. CRAW.

## BUILDING GUILDS

FOR ten years or more a group of English writers have been preaching the virtues of Guild industry. The term indicates a society of craftsmen who believe they can serve the public better and can obtain better and more stable working conditions for themselves as a labour democracy than in subjection to what they consider the autocracy of capital. When the housing shortage in England had become a national calamity and the Government

were faced with a programme of 800,000 houses—which it was admitted could not be built on economic terms with the cost of building multiplied four times in comparison with pre-war prices—these writers approached the Building Trades Union and said: “Why should not you take on this work as Builders’ Guilds? You possess the most important element in the solution of the problem, a monopoly of labour. Why not offer this to the local authorities, who are under national obligations to provide houses, and are almost in despair at the enormous increment in the cost of building?”

The suggestion was adopted first in Manchester, then in other cities in the north of England, later in London and Wales, and now in a number of centres the building guilds are at work. As soon as the reasonableness and the practicability of the scheme had been demonstrated the municipal housing commissions agreed to the proposals of the workmen, the Ministry of Health endorsed the movement, the Wholesale Co-operative Society—the largest manufacturer of building materials in the United Kingdom aside from the Government—offered its aid in the supply of materials and agreed to insure the municipalities against loss.

Organized public service and not profit-making is the watchword of the Guild. Its surplus earnings will, under no circumstances, be distributed as dividends, but will be used for the improvement of the service, the provision of increased equipment for technical training, the elimination of hired capital, the abolition of unemployment and the promotion of a contented industry.

In Canada there is evidence of the consciousness of the movement, but no practical steps seem yet to have been taken. Mr. J. A. Ellis, Housing Director of the Ontario Government, has recommended it as a way out of the housing deadlock in Toronto. He has suggested that the Housing Commission should provide plans, secure materials and arrange the financing of a housing scheme, but that the actual building should be managed and executed by a building guild. Mr. J. T. Gunn, business agent of the Electrical Workers Union, presented a similar scheme to the Building Trades Council of Toronto, which was placed before the city council, but nothing further seems to have been done. It was estimated that a saving of \$800 per house would be effected by the elimination of the surplus cost that is incident to the ordinary system of building for profit.—A. BUCKLEY.

### COURSE IN ESTATE MANAGEMENT

An important step in the recognition of town planning and estate management as among the applied sciences has been taken in England. A college of estate management has been founded with the object not only of training students in attendance in the science of estate development, but of extending knowledge also to practitioners by means of correspondence courses.

The college will prepare students also for entrance to the Surveyors’ Institution and will enable them to qualify for the B. Sc. degree in estate management recently instituted by the London University. This degree is an external one and may be taken by students in any part of the British Empire. The syllabus covers land surveying, the valuation of land and buildings, the principles of taxation and the construction of buildings, agricultural law and forestry for those who intend to practice in the country, and town planning, urban sanitation and municipal and local government law for those students who are chiefly interested in urban development.